Name: ..... Class: .....

Task 1

1. Write your first and last initials in binary digits below using the ASCII table:

2. Using the 8-bit ASCII set, what would be the total size in bytes of the characters 'Computer Science'?

3. What is meant by a character set?

4. How many characters can be represented with the 7-bit ASCII character set?

5. The eighth bit is used to give an extra 128 characters. Any character in the ASCII table can be typed using the ALT key in combination with its ASCII code.
For example, if you type ALT + 065 on the numeric keypad, the letter A will appear.

   What is the binary representation of the letter A?

   Typing ALT + 0233 will produce **é**.
   What is the binary representation of the letter **é**?

6. The function **ASC(c)** returns the denary value of the ASCII code for character **c**.
   The function **CHR(n)** returns the character whose ASCII code is the integer **n**.
   The ASCII representation for A is 65 (denary).

   What will be printed when the following program is run? _____

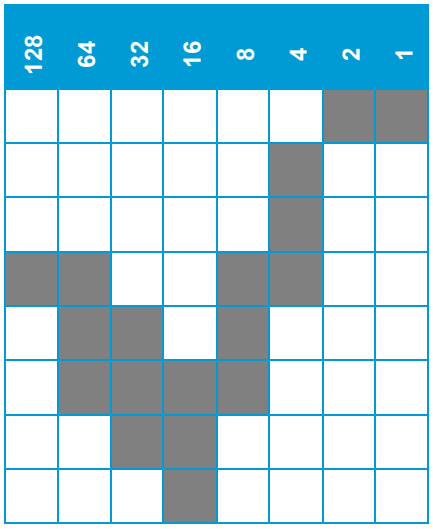
```
x = ASC('C')
y = x + 3
z = CHR(y)
print(x,y,z)
```

Task 2

1. Mathematical symbols not represented by keys on the regular QWERTY keyboard are displayed on a computer monitor using an 8x8 grid. Working right to left, columns in the grid are given binary place values of 1, 2, 4, 8, 16, 32, 64 and 128.

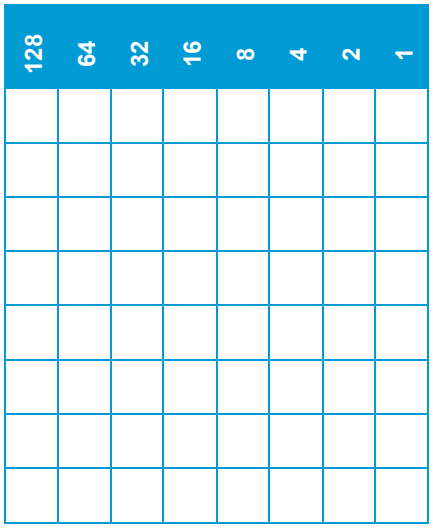
   The values from each row are stored in a table, using the place values to calculate the total. Row one in the figure below gives the value of 3.

   a) Complete the values for rows 2-8 to store the square root character √.



Row	Value
1	3
2	
3	
4	
5	
6	
7	
8	

   b) Draw the lambda character formed from the data values in the table below:



Row	Value
1	96
2	16
3	16
4	24
5	56
6	52
7	101
8	194

Task 3

1. A programmer writes the following lines of code in Python. All data is input as ASCII characters.

```
print("Please input an integer x: ")
x = input()
print("Please input a second integer y:")
y = input()
z = x + y
print("x + y = ", z)
```

(a) The user enters 7 and 4. What will be printed? Explain your answer.

The programmer changes the second and fourth lines to read

```
x = int(input())
y = int(input())
```

The user enters 7 and 4. What will be printed?

(b) The programmer changes the program to the following:

```
print("Please input an integer x: ")
x = input()
print("Please input a second integer y:")
y = input()
z = x - y
print("x - y = " + z)
```

What will happen when the program is run? Why?